

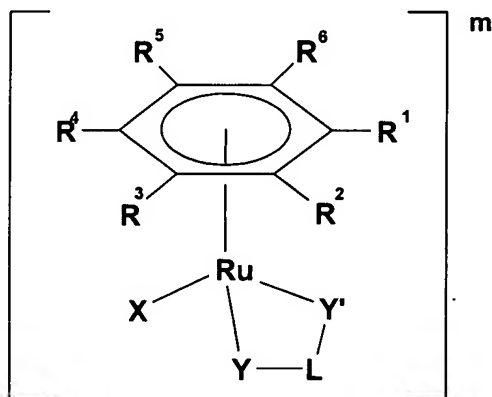
Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-15 (canceled)

16. (New) Ruthenium(II) compound of formula(I) :



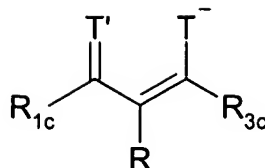
(I)

wherein:

one of R¹, R², R³, R⁴, R⁵ and R⁶ is phenyl and the other groups are H;

X is a neutral or negatively charged O-, N- or S-donor ligand or halo;

Y-L-Y' is:



wherein T and T' are independently O and S, and R, R_{1c}, and R_{3c} are independently H, (C₁-C₆)alkyl, aryl, aralkyl, wherein the latter two groups are optionally substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7b}, CONR^{8b}R^{9b}, COR^{10b}, SO₃G', SO₂NR^{11b}R^{12b}, aryloxy, (C₁-C₆)alkylthio, -N=N-R^{13b}, NR^{14b}R^{15b} or (C₁-C₆)alkoxy; R^{7b}, R^{8b}, R^{9b}, R^{10b}, R^{11b}, R^{12b}, R^{13b}, R^{14b}, and R^{15b} are independently selected from H, (C₁-C₆)alkyl, aryl or aralkyl;

G and G' are independently selected from alkali metals, aryl, aralkyl and (C₁-C₆) alkyl;

m is -1, 0 or +1 and the compound comprises a counterion when m is -1 or +1;

the compound of formula (I) optionally being in the form of a dimer in which two L groups are linked either directly or through a group comprising one or more of (C₁-C₆) alkylene, (C₁-C₆) alkenylene, arylene, aralkylene, alkarylene, Se, Se-Se, S-S, N=N and C=O or in which L bears two Y groups and two Y' groups.

17. (New) Compound as claimed in claim 16, wherein m is 0.

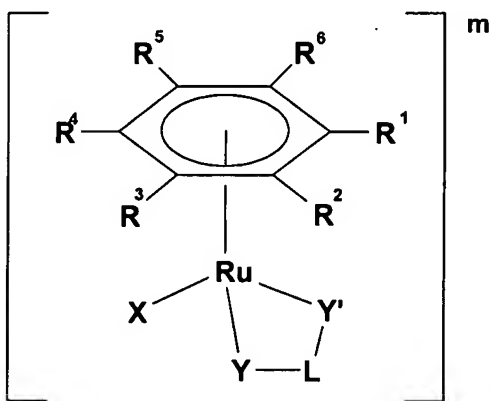
18. (New) Compound as claimed in claim 16, wherein X is halo or CH₃CN.

19. (New) Compound as claimed in claim 16, wherein T and T' are both O, R is H or (C₁-C₆) alkyl and R_{1c} and R_{3c} are independently (C₁-C₆)alkyl or phenyl, said phenyl optionally substituted by (C₁-C₆)alkyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆) alkyl, halo, carboxyl, CO₂(C₁-C₆)alkyl, CONH₂, COH, CO(C₁-C₆)alkyl, SO₃H, SO₂NH₂, phenoxy, (C₁-C₆) alkylthio, NH₂ or (C₁-C₆)alkoxy.

20. (New) Compound as claimed in claim 19, wherein R_{1c} and R_{3c} are independently phenyl, said phenyl optionally substituted by (C_1-C_6) alkyl, hydroxy (C_1-C_6) alkyl, amino (C_1-C_6) alkyl, halo, carboxyl, $CO_2(C_1-C_6)$ alkyl, $CONH_2$, COH, $CO(C_1-C_6)$ alkyl, SO_3H , SO_2NH_2 , phenoxy, (C_1-C_6) alkylthio, NH_2 or (C_1-C_6) alkoxy.

21. (New) Compound as claimed in claim 20, wherein R is H and R_{1c} and R_{3c} are independently (C_1-C_6) alkyl or phenyl.

22. (New) Ruthenium(II) compound of formula(I) :



(I)

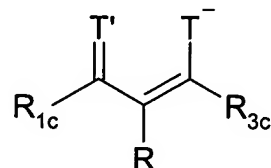
wherein: R^1 , R^2 , R^3 , R^4 , R^5 and R^6 independently represent H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, hydroxy (C_1-C_6) alkyl, amino (C_1-C_6) alkyl, halo, CO_2R^7 , $CONR^8R^9$, COR^{10} , SO_3H , $SO_2NR^{11}R^{12}$, aryloxy, (C_1-C_6) alkoxy, (C_1-C_6) alkylthio, $-N=N-R^{13}$, $NR^{14}R^{15}$, aryl or aralkyl, which latter two groups are optionally substituted on the aromatic ring by one or more groups independently selected from (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, hydroxy (C_1-C_6) alkyl, amino (C_1-C_6) alkyl, aryl, aralkyl, halo, CO_2R^{7a} , $CONR^{8a}R^{9a}$, COR^{10a} , SO_3G , $SO_2NR^{11a}R^{12a}$, aryloxy, (C_1-C_6) alkoxy, (C_1-C_6) alkylthio, $-N=N-R^{13a}$, $NR^{14a}R^{15a}$, or R^1 and R^2 together with the ring to which they are bound represent a saturated or unsaturated carbocyclic or heterocyclic group containing up to three 3-to 8-membered carbocyclic or heterocyclic rings, wherein each

carbocyclic or heterocyclic ring may be fused to one or more other carbocyclic or heterocyclic rings, and wherein each of the rings may be optionally substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7b}, CONR^{8b}R^{9b}, COR^{10b}, SO₃G', SO₂NR^{11b}R^{12b}, aryloxy, (C₁-C₆)alkylthio, -N=N-R^{13b}, NR^{14b}R^{15b} or (C₁-C₆)alkoxy; R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R^{7a}, R^{8a}, R^{9a}, R^{10a}, R^{11a}, R^{12a}, R^{13a}, R^{14a}, R^{15a}, R^{7b}, R^{8b}, R^{9b}, R^{10b}, R^{11b}, R^{12b}, R^{13b}, R^{14b}, and R^{15b} are independently selected from H, (C₁-C₆)alkyl, aryl or aralkyl;

X is a neutral or negatively charged O-, N- or S-donor ligand or halo;

G and G' are independently selected from alkali metals, aryl, aralkyl and (C₁-C₆) alkyl;

Y-L-Y' is:



wherein T and T' are both O, R is H or (C₁-C₆) alkyl and R_{1c} and R_{3c} are independently phenyl, said phenyl optionally substituted by (C₁-C₆)alkyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆) alkyl, halo, carboxyl, CO₂(C₁-C₆)alkyl, CONH₂, COH, CO(C₁-C₆)alkyl, SO₃H, SO₂NH₂, phenoxy, (C₁-C₆) alkylthio, NH₂ or (C₁-C₆)alkoxy;

m is -1, 0 or +1 and the compound comprises a counterion when m is -1 or +1;

the compound of formula (I) optionally being in the form of a dimer in which two L groups are linked either directly or through a group comprising one or more of (C₁-C₆) alkylene, (C₁-C₆) alkenylene, arylene, aralkylene, alkarylene, Se, Se-Se, S-S, N=N and C=O or in which L bears two Y groups and two Y' groups.

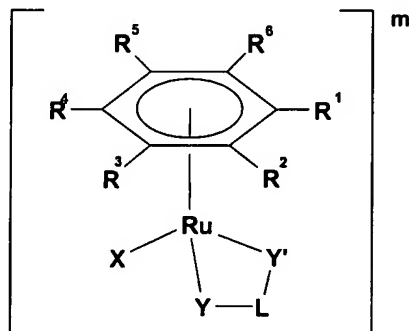
23. (New) Compound as claimed in claim 22, wherein R¹, R², R³, R⁴, R⁵ and R⁶ are independently selected from H, (C₁-C₆) alkyl and phenyl or R¹ and R² together with the ring to which they are bound represent anthracene or a hydrogenated derivative of anthracene, said phenyl and anthracene or a hydrogenated derivative of anthracene group being optionally

substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆) alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, phenyl, benzyl, halo, carboxyl, CO₂(C₁-C₆)alkyl, CONH₂, COH, CO(C₁-C₆)alkyl, SO₃H, SO₂NH₂, phenoxy, (C₁-C₆)alkylthio, NH₂ or (C₁-C₆) alkoxy.

24. (New) Compound as claimed in claim 22, wherein m is 0.

25. (New) Compound as claimed in any claim 22, wherein X is halo or CH₃CN.

26. (New) A method of treating and/or preventing cancer which comprises administering to a subject a therapeutically effective amount of a ruthenium(II) compound of formula(I) :



(I)

wherein:

R¹, R², R³, R⁴, R⁵ and R⁶ independently represent H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, halo, CO₂R⁷, CONR⁸R⁹, COR¹⁰, SO₃H, SO₂NR¹¹R¹², aryloxy, (C₁-C₆)alkoxy, (C₁-C₆)alkylthio, -N=N-R¹³, NR¹⁴R¹⁵, aryl or aralkyl, which latter two groups are optionally substituted on the aromatic ring by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7a}, CONR^{8a}R^{9a}, COR^{10a}, SO₃G, SO₂NR^{11a}R^{12a}, aryloxy, (C₁-C₆)alkoxy, (C₁-C₆)alkylthio, -N=N-R^{13a}, NR^{14a}R^{15a}, or R¹ and R² together with the

ring to which they are bound represent a saturated or unsaturated carbocyclic or heterocyclic group containing up to three 3-to 8-membered carbocyclic or heterocyclic rings, wherein each carbocyclic or heterocyclic ring may be fused to one or more other carbocyclic or heterocyclic rings, and wherein each of the rings may be optionally substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7b}, CONR^{8b}R^{9b}, COR^{10b}, SO₃G', SO₂NR^{11b}R^{12b}, aryloxy, (C₁-C₆)alkylthio, -N=N-R^{13b}, NR^{14b}R^{15b} or (C₁-C₆)alkoxy; R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R^{7a}, R^{8a}, R^{9a}, R^{10a}, R^{11a}, R^{12a}, R^{13a}, R^{14a}, R^{15a}, R^{7b}, R^{8b}, R^{9b}, R^{10b}, R^{11b}, R^{12b}, R^{13b}, R^{14b}, and R^{15b} are independently selected from H, (C₁-C₆)alkyl, aryl or aralkyl;

X is a neutral or negatively charged O-, N- or S-donor ligand or halo;

G and G' are independently selected from alkali metals, aryl, aralkyl and (C₁-C₆) alkyl;

Y-L-Y' is a bidentate ligand bearing a negative charge with a proportion of the charge on both Y and Y', Y and Y' are independently selected from O, S or NR¹⁶, wherein R¹⁶ is H, (C₁-C₆) alkyl, aryl or aralkyl, and L is a group linking Y and Y' and comprises one or more groups selected from (C₁-C₆) alkylene, (C₁-C₆) alkenylene, (C₁-C₆) alkynylene, arylene, aralkylene, alkarylene, each of said latter six groups being optionally substituted, ferrocenylene, Se, Se-Se, S-S, N=N and C=O;

m is -1, 0 or +1 and the compound comprises a counterion when m is -1 or +1;

the compound of formula (I) optionally being in the form of a dimer in which two L groups are linked either directly or through a group comprising one or more of (C₁-C₆) alkylene, (C₁-C₆) alkenylene, arylene, aralkylene, alkarylene, Se, Se-Se, S-S, N=N and C=O or in which L bears two Y groups and two Y' groups.

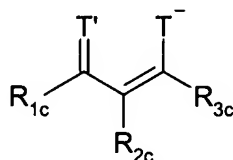
27. (New) A method as claimed in claim 26, wherein R¹, R², R³, R⁴, R⁵ and R⁶ are independently selected from H, (C₁-C₆) alkyl and phenyl or R¹ and R² together with the ring to which they are bound represent anthracene or a hydrogenated derivative of anthracene, said phenyl and anthracene or a hydrogenated derivative of anthracene group being optionally

substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆) alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, phenyl, benzyl, halo, carboxyl, CO₂(C₁-C₆)alkyl, CONH₂, COH, CO(C₁-C₆)alkyl, SO₃H, SO₂NH₂, phenoxy, (C₁-C₆)alkylthio, NH₂ or (C₁-C₆) alkoxy.

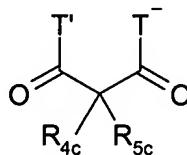
28. (New) A method as claimed in claim 26, wherein m is 0.

29. (New) A method as claimed in claim 26, wherein X is halo or CH₃CN.

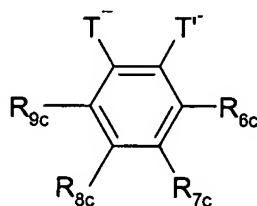
30. (New) A method as claimed in claim 26, wherein Y-L-Y' is selected from ligands of formulae (II) to (X):



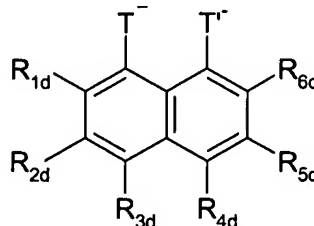
(II)



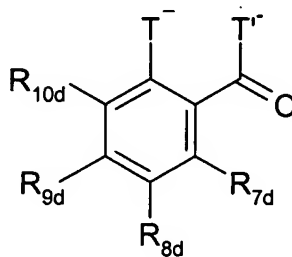
(III)



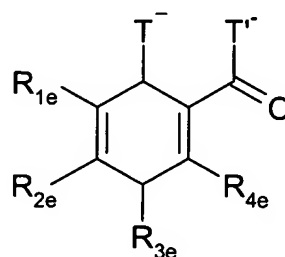
(IV)



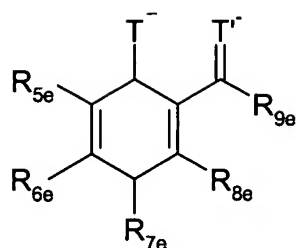
(V)



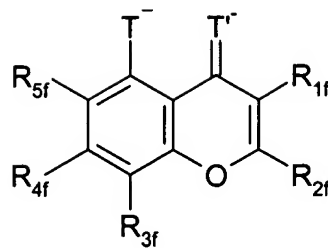
(VI)



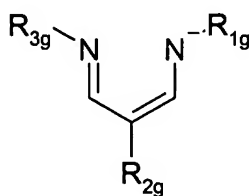
(VII)



(VIII)



(IX)



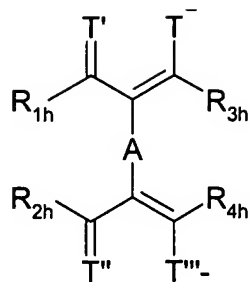
(X)

wherein T and T' are independently selected from O and S,

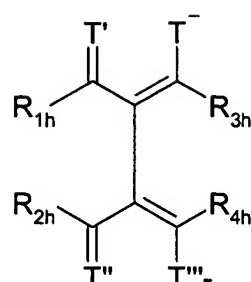
R_{1g} and R_{3g} are independently H, (C₁-C₆) alkyl, aryl or aralkyl,

R_{1c} to R_{5f} and R_{2g} are independently H, (C₁-C₆)alkyl, aryl, aralkyl, wherein the latter two groups and the corresponding groups for R_{1g} and R_{3g} are optionally substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7b}, CONR^{8b}R^{9b}, COR^{10b}, SO₃G', SO₂NR^{11b}R^{12b}, aryloxy, (C₁-C₆)alkylthio, -N=N-R^{13b}, NR^{14b}R^{15b} or (C₁-C₆)alkoxy, wherein R^{7b}, R^{8b}, R^{9b}, R^{10b}, R^{11b}, R^{12b}, R^{13b}, R^{14b}, and R^{15b} are as defined.

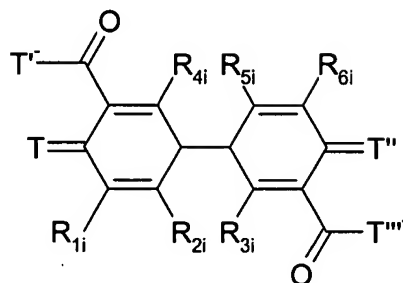
31. (New) A method as claimed in claim 26, wherein Y-L-Y' is selected from:



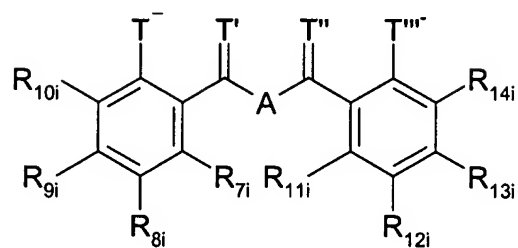
(XI)



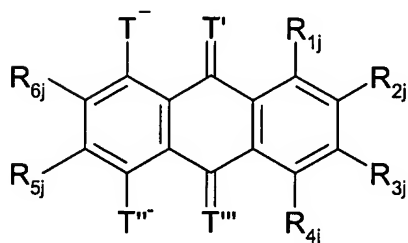
(XII)



(XIII)



(XIV)

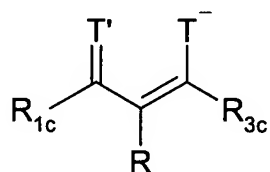


(XV)

wherein T, T', T'' and T''' are independently selected from O and S,

A comprises one or more groups selected from (C₁-C₆)alkylene, (C₁-C₆)alkenylene, (C₁-C₆)alkynylene, arylene, aralkylene, alkarylene, ferrocenylene, Se, Se-Se, S-S, N=N and C=O and R_{1h} to R_{6j} are independently H, (C₁-C₆)alkyl, aryl, aralkyl, wherein the latter two groups are optionally substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7b}, CONR^{8b}R^{9b}, COR^{10b}, SO₃G', SO₂NR^{11b}R^{12b}, aryloxy, (C₁-C₆)alkylthio, -N=N-R^{13b}, NR^{14b}R^{15b} or (C₁-C₆)alkoxy, wherein R^{7b}, R^{8b}, R^{9b}, R^{10b}, R^{11b}, R^{12b}, R^{13b}, R^{14b}, and R^{15b} are as defined.

32. (New) A method as claimed in claim 26, wherein Y-L-Y' is:



wherein T and T' are independently O and S, and R, R_{1c}, and R_{3c} are independently H, (C₁-C₆)alkyl, aryl, aralkyl, wherein the latter two groups are optionally substituted by one or more groups independently selected from (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, aryl, aralkyl, halo, CO₂R^{7b}, CONR^{8b}R^{9b}, COR^{10b}, SO₃G', SO₂NR^{11b}R^{12b}, aryloxy, (C₁-C₆)alkylthio, -N=N-R^{13b}, NR^{14b}R^{15b} or (C₁-C₆)alkoxy, wherein R^{7b}, R^{8b}, R^{9b}, R^{10b}, R^{11b}, R^{12b}, R^{13b}, R^{14b}, and R^{15b} are as defined.

33. (New) A method as claimed in claim 32, wherein T and T' are both O, R is H or (C₁-C₆)alkyl and R_{1c} and R_{3c} are independently (C₁-C₆)alkyl or phenyl, said phenyl optionally substituted by (C₁-C₆)alkyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, halo, carboxyl, CO₂(C₁-C₆)alkyl, CONH₂, COH, CO(C₁-C₆)alkyl, SO₃H, SO₂NH₂, phenoxy, (C₁-C₆)alkylthio, NH₂ or (C₁-C₆)alkoxy.

34. (New) A method as claimed in claim 33, wherein R is H and R_{1c} and R_{3c} are independently (C₁-C₆)alkyl or phenyl.

Applicant : Peter John Sadler et al.
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35. (New) A method as claimed in claim 26, wherein Y and Y' are both O.